## SCIENCE

NEW SERIES. VOLUME XLI

JANUARY-JUNE, 1915

NEW YORK
THE SCIENCE PRESS
1915

THE NEW ERA PRINTING COMPANY, 41 NORTH QUEEN STREET, LANCASTER, PA.

Ven y follows

## CONTENTS AND INDEX.

## NEW SERIES. VOL. XLI.-JANUARY TO JULY, 1915.

THE NAMES OF CONTRIBUTORS ARE PRINTED IN SMALL CAPITALS

Abbe, C., Jr., Meteorology in Germany, 65
Accidents, Industrial, 905
Adams, C. C., Wild Life Conservation, 790
Adams, L. A., and W. K. Gregory, Temporal
Fossæ of Vertebrates, 763
Adelie Land, Meteorology of, A. W. Greely, 395
Agricultural, Experiment Stations, S. B. Doten,
138; Work, L. H. Bailey, 297
Agriculture, E. W. Allen, 330; F. H. Blodgett,
426
AITKEN, R. G., Arthur von Auwers, 495
Alaska, Glacier, 32; Surveys, 715

AITKEN, R. G., Arthur von Auwers, 495
Alaska, Glacier, 32; Surveys, 715
Albinism in English Sparrow, P. J. O'GARA, 26;
C. W. HARGITT, 245; A. M. BANTA, 577; H. S.
SWARTH, M. S. CROSBY, 578; G. B. HONY, J.
DRUMMOND, 579

Alexandrian Series, C. KEYES, 863 Alfalfa, Crown-gall of, O. T. WILSON, 797

Alfalfa, Crown-gall of, O. T. Wilson, 797
American, Ambulance Hospital in Paris, 58; Assoc. for the Advancement of Science, Address of President, 1; Philadelphia Meeting, 70; Section B, 73; Section F, 81; Section A, 109; California Meeting, 127; Section D, 154, 765, 798; Section G, 223; Section M, 297, 330; Committee of One Hundred, 315; Section H, 371; Section C, 404; Section K, 407; Symposium on Ventilation, 625, 632; Washington Meeting, 638; Pacific Division, 857; San Francisco Meeting, Hotel Reservations, 892; Assoc. of University Professors, J. Dewey, 147; Organization, A. O. Lovejoy, 151; Philos. Soc., 880; H. C. RICHARDS, 835

C. RICHARDS, 835
Ameba, Clavellinæ, J. S. Huxley, 26
Amphibia of Coal Measures, R. L. Moodie, 463
Antagonism, W. J. V. Osterhout, 255
Anthropological, Assoc., Amer., R. H. Lowie, 221;
Soc. of Wash., D. Folkmar, 552, 588, 700, 879
Antisepsis of Wounds, R. A. Fessenden, 904
Antwerp Zoological Garden, 86
Apogamy in Ferns, W. N. Steil, 293
Appel, O., Disease Resistance in Plants, 773
Arctowski, H., Volcanic Dust Veils, 252
Armstrong, H. E., State and Education, 923
Astronomical, Research, E. C. Pickering, 82; and

ARCTOWSKI, H., Volcanic Dust Veils, 252
ARMSTRONG, H. E., State and Education, 923
Astronomical, Research, E. C. PICKERING, 82; and
Mathematical, F. SCHLESINGER, 109
Atmometer, B. E. LIVINGSTON, 872
Atom, The Nucleus, A. D. Cole, 73; Constitution
of, 160

AUER, J., Amer. Soc. for Pharmacol. and Exp. Therapeut., 294

Auwers, Arthur von, R. G. AITKEN, 495

Bacillus radicicola, C B, LIPMAN and L. W. Fow-LER, 256, 725 Bacteriologists, Soc. of Amer., A. P. HITCHENS, 618, 660; Address of President, 306 BAEKELAND, L. H., Edward Weston, 484 BAILEY, E. H. S., Frank Olin Marvin, 600 Bailey, I. W., and E. W. Sinnott, Botanical Index of Climates, 831

Bailey, L. H., Agricultural Work, 297

Bakeb, A. C., and W. F. Turner, Grape Aphid, 834

Banks, N., Notes on Entomology, 614

Banta, A. M., Albinism, 577

Barr and Archibald, Alternating Current Machinery, R. R. Lawrence, 505

Baskerville, C., and J. T. Gwathmey, Anesthesia, J. H. Long, 133

Bateson on Mendelism, W. E. Castle, 94

Bauer, M., Festschrift, G. F. Kunz, 392

Becker, G. F., Isostasy and Radioactivity, 157

Benedict, R. C., Another State Park, 827

Benjamin, C. H., Fraternity Grades, 135

Berry, E. W., Terra Nova Expedition, 830

Bessey, C. E., Botanical Notes, 364

Bessey, Charles Edwin, P. Spaulding, 420; J. M. Coulter, 599

COULTER, 599
Best, H., The Deaf, J. D. WRIGHT, 650
BEVAN, A. D., Clinical Departments, 368
BEVIER, I., Food Products, H. C. Sherman, 134
BIGNEY, A. J., Ind. Acad. of Sci., 843
Biological, Soc. of Wash., D. E. LANTZ, 145; M.
W. LYON, JR., 477, 552, 587, 664, 735, 877, 915;
Chemists, Soc. of, P. A. SHAFFER, 406
Biology, Premedical Work, H. McE. KNOWER, 397; Exp. Federation of Amer. Societies for, P. SHAFFER, 405

Bird Collecting, W. G. VAN NAME, 823
Birkeland, K., Magnetic Storms, W. H. Dall, 29
Blakeslee, A. F., and D. E. Warner, Yellow
Pigment and Egg-laying Activity, 432
Blanchard, A. A., Mech. Sci. and Eng., 765, 798
Blodgett, F. H., Course in Agriculture, 426
Blondel A. Motors R. R. LAWRENCE, 431

BLODGETT, F. H., Course in Agriculture, 426
Blondel, A., Motors, R. R. Lawrence, 431
Blumer, G., Medicine in China, 940
Botanical, Soc. of Amer., G. T. Moore, 170; Address of President, 185; Soc. of Wash., P. Spaulding, 260, 550, 879, 913; Address of President, 479; Notes, C. E. Bessey, 364; Index of Climates, I. W. Bailey and E. W. Sinnott, 831; N. Y. Garden, 891

Botany, in America, D. H. CAMPBELL, 185; in Agricultural Colleges, C. V. PIPER, 211; A. N. HUME, 575; Economic Trend of, H. C. COWLES, 223

Boundary Waters, Internat. Commission, 57
Brackett, Cyrus Fogg, W. F. Magie, 523
Branner, J. C., Naturalist's Directory, 135; Patronizing S. Amer. Republics, 236; Lower Amazon, A. Lange, 363

Brasch, F. E., History of Science, 358
Brigham, A. F., Geographic Influence, 261; New Glacier Park, 611
Burman, J. W., Pacific Assoc. of Sci. Societies, 526

Cabrera, A., Fauna Ibérica, W. J. Holland, 214
Calkins, G. N., Biology, C. E. McClung, 580
CALKINS, M. W., Psychology, R. M. Ogden, 248
CAMERON, F. K., Biochemistry and Soil Conditions, E. J. Russell, 794
CAMERON, D. H. Betannin America 105 CAMPBELL, D. H., Botany in America, 185 CAMPBELL, W., Metallurgy, W. Rosenhain, 762 CAMPBELL, W. W., Pacific Assoc. of Sci. Societies, CANNON, A. J., Mrs. Henry Draper, 380 CANNON, W. B., Physiology, L. Luciani, 289 Carlson, A. J., Amer., Physiol. Soc., 142 Carnegie Institution, 191 CARRUTH, F. E., and W. A. WITHERS, Gossypol, CASSINO, S. E., Naturalist's Directory, 502 CASTLE, W. E., Mendelism and Mutation, 94 CATTELL, J. McKEEN, Scientific Research, 729 Cartell, J. McKeen, Scientific Research, 729
Cavern of Three Brothers, G. G. MacCurdy, 782
Cereal Investigations, Interstate Conference, 602
Chambers, R., Jr., Germ Cell, 290
Chemical, Industry in Great Britain, 601; Amer. Soc., New Orleans Meeting, C. L. Parsons, 697; Seattle Meeting, 817 Chemist and Industry, B. C. Hesse, 665 Chicago Acad. of Sci., 586 Child, R. G., Electric Arcs, R. G. Hudson, 829 China, Medicine in, G. Blumer, 940 Claparède, E., Letter, 534
CLARK, A. H., Shark Intoxication, 795
CLARK, G. A., Pribilof Islands, 902
CLARK, O. L., Counting Seeds, 132; Eye Screen for Microscope, 792
CLARKE, J. M., New Glacial Park, 382
Claypole, Edith Jane, 754
Clinical, Departments of Medical Schools, A. D.
BEVAN, 388; G. LUSK, 531; Instruction, M. G. SEELIG, 594

Cobb, M. V., Origin of Human Twins, 501

Cockerell, T. D. A., Red Sunflower, 33; Wonder of Life, J. A. Thompson, 290; Ants, W. M. Wheeler, 906

Cocker B. S. New Orleans Acad. of Sci. 478 Cocks, R. S., New Orleans Acad. of Sci., 478, 664, 880 Cole, A. D., The Nucleus Atom, 73; Amer. Physical Soc., 259, 841; San Francisco Meeting, 934 Cole, F. N., Amer. Math. Soc., 144, 476, 698 Commercial Geography and World Politics, 86 Compton, K. T., and E. A. Trousdale, Magnetic Porticle 611 Particle, 611 Conklin, E. G., Zoology and Humanity, 333; August Weismann, 917 Conserve the Collector, J. GRINNELL, 229 Coral Reefs, W. M. Davis, 455
Cornell Med. Soc. of N. Y. City, 892
Cotton, Worm Moth, A. P. Saunders, 65; J. H. GEROULD, 464; Bleaching, B. S. LEVINE, 543 COULTER, J. M., Charles E. Bessey, 599 Counting Seeds, O. L. CLARK, 132 Cowles, H. C., Economic Trend of Botany, 223 Cragg, F. W., and W. S. Patton, Medical Ento-mology, C. A. KOFOID, 167 CROSBY, M. S., Albinism, 578

D., G. V. N., Forsyth Dental Infirmary, 30 DALL, W. H., Magnetic Storms, K. Birkeland, 29 Dall, W. H., Molluscan Fauna, G. D. HARRIS, 612 Daly's Igneous Rocks, W. LINDGREN, 166 Danforth, C. H., St. Louis Acad. of Sci., 108, 588
Davenport, C. B., Scientific Genealogy, 337
Davis, B. M., Amer. Soc. Naturalists, 369
Davis, W. M., Coral Reefs, 455
Day, A. L., Nat. Acad. of Sci., Washington Meeting, 566; Annual Meeting, 692
Denudation, Continental, E. W. Shaw, 244
Dewey, J., Amer. Assoc. of University Professors, 147; A. O. Lovejoy, and E. R. A. Seligman, University of Utah, 685
Diller, J. S., Relief of Pacific Coast, 48
Dinosaurs, Sphenoidal Sinus in, R. L. Moodie, 288
Discussion and Correspondence, 26, 63, 94, 131, 166, 207, 244, 288, 324, 358, 388, 424, 462, 501, 531, 575, 608, 644, 682, 725, 757, 790, 823, 863, 897, 939
Doten, S. B., Agric. Exper. Stations, 188
Downing, E. R., Secondary Schools, 232
Draper, Mrs. Henry, A. J. Cannon, 380
Drummond, J., Albinism in English Sparrow, 579
Dyche, Lewis Lindsey, F. Strong, 280
Dynamics, L. M. Hoskins, 608, 684

Earthquakes in Panama, D. F. McDonald, 783
Edison and Science, R. C. Maclaurin, 613
Ehrlich, P., Investigations, L. Hektoen, 27
Electrical Photometry of Stars, J. Stebbins, 809
ELIOT, C. W., Charles Sedgwick Minot, 701
Ellis, C., Hydrogenation of Oils, A. H. Gill, 167
Engineering, Safety, O. P. Hood, 154
Entomological Soc. of Amer., A. D. MacGillivray, 842
Entomology, Notes on, N. Banks, 614
Eugenics and Public Service, G. H. Parker, 342
Evans, G. C., Les Fonctions de Lignes, V. Volterra, 246
Eye Screen for Microscope, O. L. Clark, 792; X, 864

Fessenden, R. A., Antisepsis of Wounds, 904
Fetzer, L. W., Elisha Wilson Morse, 677
Fiords, Nature and Origin, D. W. Johnson, 537
Fischer, M. H., Suppressed Kidney Function, 584
Folin, O., Chemistry, O. Hammarsten, 614
Folkmar, D., Anthrop. Soc. of Wash., 552, 588, 700, 879
Forestry, H. S. Graves, 117
Forsyth Dental Infirmary, G. V. N. D., 30
Fossæ, Temporal, of Vertebrates, W. K. Gregory and L. A. Adams, 763
Fowler, L. W., and C. B. Lipman, Bacillus radicicola, 256
Fraas, Eberhard, H. F. Osborn, 571
Franklin Medal, Awards, 785
Fraternities and Scholarship, L. B. Walton, 63
Fraternity Grades, C. H. Benjamin, 135
Fruit Rots, F. L. Stevens, 912
Fulcher, G. S., Mechanics, 644

GAEHR, P. F., Mechanics, 939
Gage, S. H., and H. P., Optic Projection, P. G.
NUTTING, 395
GAGER, C. S., Dying Leaves, N. Swart, 99
GALE, H. S., Lake Lahontan, 209
Gamma Function and Interpolation, R. PEARL, 506
GARRETT, A. O., Utah Acad. of Sci., 699
GARRISON, F. H., Variolation, A. C. Klebs, 502;
Medical Botanists, H. A. Kelly, 649

224472

Garrison, F. H., History of Medicine, R. L. Moodie, 536 Gases, Rare, R. H. GODDARD, 682; Continuous Spectra, E. P. Lewis, 947 Genus, Saving the, F. B. SUMNER, 899 Geographers, Assoc. of Amer., President's Address, 261 Geographic Influence, A. P. Brigham, 261 Geographical Meeting in N. Y. City, 525 Geological, Soc. of Amer., Address of President, 157; E. O. Hovey, 238, 507; Survey, U. S., at Panama, 383
Geology at Harvard University, 237
Germ Cell, R. CHAMBERS, JR., 290
GEROULD, J. H., Cotton Worm Moth, 464
Gifford, Natural Sines, D. E. SMITH, 652 GILL, A. H., Oils, Fats and Waxes, J. Lewkowitsch, 69; Hydrogenation of Oils, C. Ellis, 167 GILMORE, C. W., The Genus Trachodon, 658 GLASER, O., Biologische Weltanschauung, Baron von Uexküll, 324 GODDARD, R. H., Rare Gases in Vacuum Tubes, 682 GOOD, F. F., Household Physics, C. J. LYNDE, 29 GORDON, C. E., GONIONEMUS MUTBACHII Mayer, 26 GORTNER, R. A., J. A. HARRIS, and J. V. LAWR-ENCE, OSMOTIC Pressure and Desert Plants, 6324 GOSSYPOL, F. A. WITHERS and F. E. CARRUTH, 324 Gowdy, R. C., and T. L. Porter, Mechanics, 825 Grading at Goucher, W. E. Kellicott, 909 Grape Aphid, A. C. Baker and W. F. Turner, 834 Grave, C., Amer. Soc. of Zoologists, 434, 469 Graves, H. S., Forestry, 117 Gray Herbarium, 675
GREELY, A. W., Home of the Blizzard, D. Mawson, 360; Meteorology of Adelie Land, 395 Greenhill, G., Gyroscopic Theory, D. E. SMITH, FOSSE of Vertebrates, 763 GRINNELL, J., Conserve the Collector, 229 Grinnell, J., Mammals and Birds, F. B. SUMNER, GROAT, B. F., Chemihydrometry, 864 Growth, Stimulation of, J. LOEB, 704 Guinea-pigs, Sex in, G. PAPANICOLAOU, 401

Hale, G. E., National Academies and Research, 12; Proceedings of National Academy, 815
Hall of Fame, E. C. Pickering, 897
Hallwash's Lichtelektrizität, R. A. Millikan, 943
Hammarsten, O., Chemistry, O. Folin, 614
Hamor, W. A., The Mellon Institute, 418
Hargitt, G. W., Albinism, 245
Harpswell Laboratory, 603
Harris, G. D., Molluscan Fauna, W. H. Dall, 612
Harris, J. A., J. V. Lawrence, and R. A. Gortner, Osmotic Pressure and Desert Plants, 656
Health Law of New York State, 579
Hektoen, L., Investigations, P. Ehrlich, 27; Infection and Resistance, H. Zinsser, 28
Heliotropism, J. Loeb and H. Wasteneys, 328
Henderson, Y., Portable Lamp Battery, 910
Hesse, B. C., The Chemist and Industry, 665
Hilliard, C. M., Infection and Resistance, H. Zinsser, 686

Gwathmey, J. T., and C. Baskerville, Anesthesia,

J. H. Long, 133

HITCHENS, A. P., Soc. of Amer. Bacteriologists, 618, 660
Hobart, H. M., Generators, R. B. Lawrence, 431
Holde, D., Oils, Fats and Waxes, C. F. Mabery, 908
Holland, W. J., Faura Ibérica, A. Cabrera, 214
Hony, G. B., Albinism in English Sparrow, 579
Hood, O. P., Safety Engineering, 154
Hopkins, C. G., and W. H. Sachs, Radium Fertilizer, 732
Hoskins, L. M., Dynamics, 608, 684
Hough, T., Nervous Reactions, 407
Hovey, E. O., Geol. Soc. of Amer., 238, 507
Howard, L. O., Dr. A. F. A. King, 312; Amer. Assoc. for Adv. of Sei., 638
Hudson, R. G., Electric Arc Phenomena, E. Rash, 466; C. D. Child, 829
Huggins, Lady, S. F. Whiting, 853
Hume, A. N., Botany in Agric. Colleges, 575
Huntington, E., Climatic Factor, F. E. Lloyd, 864
Huntington, E. V., Mechanics, 207
Huxley, J. S., Ameba Clavellinæ, 26
Huxley Lecture, 88

Illinois Acad. of Sci., E. N. Transeau, 549
Imbedding Small Objects, P. A. West, 898
Indiana Acad. of Sci., A. J. Bigney, 843; F. B. Wade, 880
Inheritance in the Honey Bee, W. Newell, 218
Insect, Life Cycle in, J. Loeb, 169
Insecticides, Toxicity of, C. W. Woodworth, 367
International Engineering Congress, 753
Iowa Acad. of Sci., J. H. Lees, 948
"Isis," D. E. Smith, 132
Isostasy and Radioactivity, G. F. Becker, 157

James, J. N., Sentiment versus Education, 64 Johnson, D. W., Nature of Fiords, 537 Johnston, C. H., High School, C. C. Kohl, 216 Johnston, J., Amer. Assoc. for the Adv. of Sci., Section C, 404 Jordan, D. S., Shark's Stomach, 463

Keen, W. W., Before and After Lister, 845, 881
Keen, W. W., Animal Experimentation, F. S. Lee,
760
Kellerman, K. F., Soil Nitrates, 390
Kellicott, W. E., Grading at Goucher, 909
Kellogg, V. L., Mallophagan Species, 365
Kelly, H. A., Medical Botanists, F. H. Garrison,
649
Kent, W., Mechanics, 424
Kershaw's Sewage, G. C. Whipple, 944
Keyes, C., Alexandrian Series, 863
Keyser, C. J., Mathematical Instruction, 443
Kidney Function, M. H. Fischer, 584
Kimball, D. D., Engineering and Ventilation, 632
King, Dr. A. F. A., L. O. Howard, 312
Klebs, A. C., Variolation, F. H. Garrison, 502
Knower, H. McE., Premedical Work in Biology,
397
Kofoid, C. A., Medical Entomology, W. S. Patton and F. W. Cragg, 167
Kohl, C. C., High School, C. H. Johnston, 216
Kraemer, H., Starches, E. T. Reichert, 686
Kramer, S. D., Musca Domestica, 874
Kunz, G. F., Festschrift Max Bauer, 392

L., F. R., Invertebrata, E. W. MacBride, 534 Lake Lahontan, H. S. Gale, 209 Lamp Battery, Portable, Y. Henderson, 911

Lange, A., Lower Amazon, J. C. Branner, 363
LANTZ, D. E., Biol. Soc. of Wash., 145
LAWRENCE, J. V., J. A. HARRIS and R. A. GORTNER, Osmotic Pressure and Desert Plants, 656
LAWRENCE, R. R. Generators and Motors, H. M. LAWRENCE, R. R., Generators and Motors, H. M. Hobart, 431; Motors and Convertors, A. Blondel, 431; Storage Batteries, H. W. Morse, 432; Alternating Currents, W. G. Rhodes, 504; Alternating Current, Barr and Archibald, 505

LEE, F. S., Animal Experimentation, W. W. Keen,

LEES, J. H., Iowa Acad. of Sci., 948 LEVINE, B. S., Bleaching Cotton, 543

Lewis, E. P., Spectra of Gases, 947 Lewkowitsch, J., Oils, Fats and Waxes, A. H.

LILLIE, R. S., Universities and Investigation, 553
LINDGREN, W., Daly's Igneous Rocks, 166
LINTON, E., Woods Hole Laboratory, 737
LIPMAN, C. B., and L. W. FOWLER, Bacillus radicicola, 256, 725

Lister, Before and After, W. W. KEEN, 845, 881 Livingston, B. E., Atmometer, 872 Lizards, Texas Horned, W. M. Winton, 797 LLOYD, F. E., The Salton Sea, D. T. MacDougal, 725; Climatic Factor, E. Huntington, 864

LOEB, J., Life Cycle of an Insect, 169; Stimulation of Growth, 704; Balanced and Nutritive Solutions, 757; and H. WASTENEYS, Heliotropism, 328

Loess of Southwestern Indiana, E. W. Shaw, 104

Long, J. H., Anesthesia, J. T. Gwathmey and C. Baskerville, 133

Lovejoy, A. O., Organization of Amer. Assoc. of University Professors, 151; J. Dewey and E. R. A. Seligman, The University of Utah, 685 LOWIE, R. H., Amer. Anthrop. Assoc., 221
Luciani, L., Physiology, W. B. CANNON, 289
LULL, R. S., Water Reptiles, S. W. Williston, 391
LUSK, G., Departments of Clinical Medicine, 531
Lynde, C. J., Household Physics, F. F. Good, 29
LYON, M. W., Jr., Biol. Soc. of Wash., 477, 551, 587, 664, 735, 877, 915

Mabery, C. F., Oils, Fats and Waxes, D. HOLDE,

McAdie, A., Get the Units Right, 647
McAtee, W. L., Psyllidæ Wintering, 940
MacBride, E. W., Invertebrata, F. R. L., 534
McClung, C. E., Biology, G. N. Calkins, 580
MacCurdy, G. G., Cavern of Three Brothers, 782
MacDonald, D. F., Earthquakes in Panama, 783
McDonald, S. L., A Typical Case, 760
MacDougal, D. T., Plants and Growth, 467
MacDougal, D. T., Salton Sea, F. E., Lloyn, 725 MacDougal, D. T., Salton Sea, F. E. LLOYD, 725 MACGILLIVRAY, A. D., Entom. Soc. of Amer., 842 MACLAURIN, R. C., Edison's Service for Science, 313

MAGIE, W. F., Cyrus Fogg Brackett, 523
Magnetic Particle, K. T. COMPTON and E. A.

TROUSDALE, 611 Mallophagan Species, V. L. Kelloge, 365 Marshall, C. E., Microbial Associations, 306 Marvin, Frank Olin, E. H. S. Bailey, 600 Mastodon Tusk, P. SHELDON, 98

Mathematical, Soc., Amer., F. N. Cole, 144, 476, 698; Instruction, C. J. KEYSER, 443
Mathematics at Harvard, 86
Mawson, D., Home of the Blizzards, A. W. GREELY, 360

MAYER, A. G., Address of Vice-president of Sec-

MAYER, A. G., Address of Vice-president of Section F, Amer. Assoc. for Adv. of Sci., 81

Mechanical Science and Engineering, A. A.

BLANCHARD, 765, 798

Mechanics, E. V. HUNTINGTON, 207; W. KENT,
424; G. S. FULCHER, 644; T. L. PORTER and R.
C. GOWDY, 825; P. F. GAEHR, 939

Medical Science and Medical Men, Ethics and,

S. J. MELTZER, 515

MEES, C. E. K., Royal Photographic Soc., 792 MEHL, M. G., Reptiles from the Trias, 735 MEIGS, E. B., Osmotic Properties of Muscle, 689

Mellon Institute, W. A. HAMOR, 418
MELTZER, S. J., Intranational and International

Ethics and the Mission of Medical Science and Medical Men, 515

Meteorology in Germany, C. Abbe, Jr., 65
Microbial Associations, C. E. Marshall, 306
Miller, E. R., Science Club of Univ. of Wis., 146
Millikan, R. A., Conrad Röntgen, 462; Hallwash's Lichtelektrizität, 943

Mines, Bureau of, 200 Minnesota, Univ. of, and Mayo Foundation, 855 Minot, Charles Sedgwick, 59; C. W. Ellor, 701 Mitochondria and Azo Dyes, K. J. Scott, 834

MOODIE, R. L., Microsaur from Coal, 34; Sphenoidal Sinus in Dinosaurs, 288; Amphibia of Coal Measures, 463; History of Medicine, F.

Coal Measures, 463; History of Medicine, F. H. Garrison, 536
Moore, G. T., Bot. Soc. of Amer., 170
Moore, W., Alabama Argillacea in Minnesota, 864
Morrey, C. B., Nitrogen Nutrition, 69
Morse, Elisha Wilson, L. W. Fetzer, 677
Morse, H. W., Batteries, R. R. Lawrence, 432
Muir, John, W. F. Bade, 353
Multiple Human Births, G. H. Parker, 648
Münsterberg, H., Psychology, H. C. Warren, 429
Mycology and Phytopathology, C. L. Shear, 479

National Academies and Research, G. E. HALE, 12 National Academy of Sciences, Washington Meetting, A. L. DAY, 566; Annual Meeting, 692; Proceedings, G. E. HALE, 815; E. B. WILSON, 868, 945

Naturalist's Directory, J. C. Branner, 135; S. E. CASSINO, 502

Naturalists, Amer. Soc. of, B. M. Davis, 369 Nervous Reactions, T. Hough, 407 New Orleans Acad. of Sci., R. S. Cocks, 478, 664,

NEWELL, W., Inheritance in the Honey Bee, 218 NICHOLS, W. H., War and Chemical Industry, 37

Nitrogen Nutrition, C. B. Morrey, 69
Nutring, C. C., Unnatural History, 685
Nutring, P. G., Optic Projection, S. H. and H. P. Gage, 395

O'GARA, P. J., Albinism in English Sparrow, 26; Silver Scurf of Potatoes, 131

Ogden, R. M., Amer. Psychol. Assoc., 547 Ogden, R. M., Psychology, M. W. Calkins, 248 Ohio, Acad. of Sci., E. L. Rice, 35; State University, 715

Orbits of Falling Bodies, R. S. WOODWARD, 492 OSBORN, H. F., Eberhard Fraas, 571 Osmotic, Pressure and Desert Plants, J. A. HAR-RIS, J. V. LAWRENCE and R. A. GORTNER, 656; Properties of Muscle, E. B. Meigs, 689 OSTERHOUT, W. J. V., Antagonism, 255

Pacific Coast, Relief of, J. S. DILLER, 48; Assoc. of Sci. Societies, J. N. Burman, 526; W. W. CAMPBELL, 637
PALMER, A. DEF., Measurements, J. S. Stevens,

PAPANICOLAOU, G., Sex in Guinea-pigs, 401

Paris Acad., Bonaparte Fund, 282
Park, New Glacial. J. M. CLARKE, 382; New Glacier, A. P. BRIGHAM, 611; State, R. C.

Benedict, 827
PARKER, G. H., Eugenics and Public Service, 342; Multiple Human Births, 648

PARSONS, C. L., Amer. Chem. Soc., New Orlean Meeting, 697; Seattle Meeting, 817 Pathology, Soc. of Exp., G. H. Whipple, 370 PATON, S., Preparedness for Peace, 348 New Orleans

PATTEN, M. B., Photosensitive Areas, 141
Patton, W. S., and F. W. Cragg, Medical Entomology, C. A. Kofoid, 167

Patronizing S. A. Republics, J. C. BRANNER, 236 PEARL, R., Interpolation and Gamma Function, 506; and F. M. SURFACE, Sex Characters, 615 Peck, Charles Horton, 202

Petroleum in Foreign Countries, 249

Pharmacology and Exp. Therapeut., Amer. Soc. of, J. AUER, 294

Photosensitive Areas, B. M. PATTEN, 141 Physical Soc., Amer., A. D. Cole, 259, 841, 934 Physiol. Soc., Amer., A. J. Carlson, 142 Phytopath. Soc., Amer., C. L. Shear, 545 Pickering, E. C., Astronomical Research, 82; A Typical Case, 288; Hall of Fame, 897
PILLSBURY, W. B., Definition and Method in Psy-

chology, 371
PIPER, C. V., Botany in Agric. Colleges, 211

Plant Autographs, 218

Plants, and Growth, D. T. MacDougal, 467; Feeding Power of, E. TRUOG, 616; Disease Re-

sistance, O. APPEL, 773
Poisoning of Trees, F. SANFORD, 213 Poor, C. L., Astronomy, E. W. Price, 248
PORTER, T. L., and R. C. GOWDY, Mechanics, 825
Potatoes, Silver Scurf of, P. J. O'GARA, 131 Pribilof Islands, G. A. CLARK, 902 Price, E. W., Astronomy, C. L. Poor, 248 Procyonidæ, R. W. Shufeldt, 691 Psychol. Assoc., Amer., R. M. Ogden, 547 Psychology, W. B. PILLSBURY, 371 Psyllidæ wintering of, W. L. McAtee, 940

Quotations, 214, 579, 905

Radio-activity and the Periodic System, F. P. VENABLE, 589 Radium Fertilizer, C. G. HOPKINS and W. H. Rasch, E., Electric Arc, R. G. Hudson, 466 RAYMOND, P. E., Fossils, H. W. Shimer, 582 Reichert, E. T., Starches, H. KRAEMER, 686 Reptiles from the Trias, M. G. MEHL, 735

Research, Astronomical and Mathematical, F. Schlesinger, 109; Physical Laboratory, S. R. Williams, 725; Scientific, and Sigma Xi, J. McKeen Cattell, 729
Rhodes, W. G., Alternating Currents, R. R. Lawrence, 504 RICE, E. L., Ohio Acad. of Sci., 35 RICHARDS, H. C., Amer. Philos. Soc., 835; A Solar Halo, 904
RICHARDS, R. H., Francis Humphreys Storer, 85
Rockefeller Foundation and Gen. Gorgas, 572 Röntgen, Conrad, R. A. MILLIKAN, 462 Rosenhain, W., Metallurgy, W. CAMPBELL, 762
Royal Photographic Society, C. E. K. Mees, 792
Russell, E. J., Biochemistry and Soil Conditions,
F. K. CAMERON, 794

SACHS, W. H., and C. G. HOPKINS, Radium Fertilizer, 732 St. Louis Acad. of Sci., C. H. DANFORTH, 108, 588 SANFORD, F., Poisoning of Trees, 213 SAUNDERS, A. P., Cotton Worm Moth, 65 Say, Thomas, Foundation, 784 SAYLES, R. W., Tillite in New Hampshire, 220 Scale, Tempered, L. B. SPINNEY, 911
SCHLESINGER, F., Astronomical and Mathematical Research, 109

Research, 109
Science, Teaching of History, W. T. SEDGWICK and H. W. TYLER, 26; Club of Univ. of Wis., E. R. Miller, 146; Organization of, 214; History of, F. Brasch, 358
Scientific, Notes and News, 23, 59, 89, 127, 162, 202, 238, 282, 320, 355, 384, 421, 458, 497, 526, 572, 604, 640, 677, 720, 754, 785, 818, 857, 894, 936; Books, 27, 65, 99, 133, 166, 214, 246, 289, 324, 360, 391, 428, 465, 502, 534, 580, 612, 649, 686, 725, 760, 793, 828, 864, 906, 940; Journals and Articles, 327, 505, 829; Genealogy, C. B. DAVENPORT, 337

DAVENPORT, 337 SCOTT, K. J., Vital Azo Dyes, 834

Scripps Institute, 893 Secondary Schools, E. R. Downing, 232

SEDGWICK, W. T., and H. W. TYLER, Teaching of

History of Science, 26
SEELIG, M. G., Clinical Instruction, 594
SELIGMAN, E. R. A., J. DEWEY and A. J. LOVEJOY, The University of Utah, 685
Sentiment versus Education, J. N. JAMES, 64
Sex Characters, R. Pearl and F. M. Surface, 615
SHAFFER, P., Federation Amer. Societies for Exp.
Biol., 405; Amer. Soc. Biol. Chemists, 406
Shark Intoxication, A. H. CLARK, 795
Shark's Stomach, D. S. JORDAN, 463

Shark's Stomach, D. S. Jordan, 463
SHATTUCK, C. H., Cyanide of Potassium and Trees, 324

SHAW, E. W., Loess of Southwestern Indiana, 104; Rate of Continental Denudation, 244

SHEAR, C. L., Mycology and Phytopathology, 479; Amer. Phytopath. Soc., 545

SHELDON, P., Mastodon Tusk, 98 Sheppard, S. E., Photochemistry, S. W. Young,

Sherman, H. C., Food Products, I. Bevier, 134
Shimer, H. W., Fossils, P. E. RAYMOND, 582
SHUFELDT, R. W., The Procyonidae, 691
SINNOTT, E. W., and I. W. BAILEY, Botanical Index of Climates, 831
Smith, C. H., W. E. Tower and C. M. Turton, Physics, G. W. Stewart, 652

SMITH, D. E., "Isis," 132; Natural Sines, E. Gifford, 652; Gyroscopic Theory, G. Greenhill,

Societies and Academies, 108, 145, 260, 476, 550, 586, 664, 699, 735, 877, 913, 945
Soil Nitrates, K. F. Kellerman, 390
Solar Halo, R. C. RICHARDS, 904

Solutions, Balanced, and Antagonism, R. H. TRUE, 653; Balanced and Nutritive, J. LOEB, 757

653; Balanced and Nutritive, J. Loeb, 757
SPAULDING, P., Bot. Soc. of Wash., 260, 550, 879, 913; Charles Edwin Bessey, 420
Special Articles, 33, 69, 104, 141, 169, 218, 255, 290, 328, 365, 401, 432, 467, 506, 543, 584, 615, 653, 689, 735, 763, 797, 831, 872, 910, 947
SPINNEY, Tempered Scale, 911
STEBBINS, J., Electrical Photometry of Stars, 809
STEIL, W. N., Apogamy in Ferns, 293
STEVENS, F. L., Strawberry Fungi, 912
Stevens, J. S., Measurements, A. DEF. PALMER, 828

STEWART, G. W., Physics, W. E. Tower, C. H. Smith and C. M. Turton, 652

Storer, Francis Humphreys, R. H. RICHARDS, 85

STRONG, F., Lewis Lindsey Dyche, 280 SUMNER, F. B., Mammals and Birds, J. Grinnell,

65; Saving the Genus, 899
Sunflower, Red, T. D. A. COCKERELL, 33
SURFACE, F. M., and R. PEARL, Sex Characters,

Swart, N., Dying Leaves, C. S. GAGER, 99 SWARTH, H. S., Albinism in English Sparrow, 578

Temperature and Musea Domestica, S. D. KRAMER,

Terra Nova Expedition, E. W. BERRY, 830 Tests, City Univ. of Cincinnati Bureau, 126, 201 Thomson, J. A., Wonder of Life, T. D. A. Cock-**ERELL**, 290

Tillite in New Hampshire, R. W. SAYLES, 220
Tower, W. E., C. H. Smith and C. M. Turton,
Physics, G. W. STEWART, 652
Trachodon, The Genus, C. W. GILMORE, 658
TRANSEAU, E. N., Ill. Acad. of Sci., 549
Trees and Cyanide, C. H. SHATTUCK, 324
TROUSDALE E. A. and K. T. COMPTON, Magnetic

TROUSDALE, E. A., and K. T. COMPTON, Magnetic Particle, 611

TRUE, R. H., Balanced Solutions, 653

TRUOG, E., Feeding Power of Plants, 616
TURNER, W. F., and A. C. BAKER, Grape Aphid, 834

Turton, C. M., W. E. Tower and C. H. Smith, Physics, G. W. STEWART, 652
Twins, Human, Origin of, M. V. Cobb, 501
Tyler, H. W., and W. T. Sedgwick, Teaching of History of Science, 26

Typical Case, E. C. Pickering, 288; X, 758; S. L. McDonald, 760

Uexkull, Baron von, Biologische Weltanschauung, O. GLASER, 324

Units, Get them Right, A. McAde, 647 Universities and Investigation, R. S. LILLIE, 553 University and Educational News, 25, 62, 94, 131, 165, 207, 243, 287, 323, 358, 387, 423, 461, 501, 531, 574, 607, 644, 681, 724, 757, 790, 822, 862, 865, 938

Unnatural History, C. C. NUTTING, 685 Utah, Univ. of, Conditions, 637, 685, 856; Acad., A. O. GARRETT, 699

VAN NAME, W. G., Bird Collecting, 823 VENABLE, F. P., Radio-activity and the Periodic System, 589 Ventilation C.-E. A. WINSLOW, 625; Engineering Problems, D. D. KIMBALL, 632 Volcanic Dust Veils, H. ARCTOWSKI, 252

Volterra, V., Leçons sur les Fonctions de Lignes, G. C. Evans, 246

Wade, F. B., Ind. Acad. of Sci., 880
Walton, L. B., Fraternities and Scholarship, 63
War and Chemical Industry, W. H. Nichols, 37
Warner, D. E., and A. F. Blakeslee, Egg-laying
Activity and Yellow Pigment, 432
Warren, H. C., Psychology, H. Münsterberg, 428
Washburn, F. L., Albinism, 579
Washington Univ. Med. School, 717
Wasteneys, H., and J. Loeb, Heliotropism, 328
Weismann, August. E. G. Conklin, 917

Weismann, August, E. G. CONKLIN, 917 Weismann, August, E. G. Conklin, 917
West, P. A., Imbedding Small Objects, 898
Weston's Inventions, L. H. Baekeland, 484
Wheeler, W. M., Ants, T. D. A. Cockerell, 906
Whipple, G. C., Kershaw's Sewage, 944
Whipple, G. H., Soc. Exp. Path., 370
Whiting, S. F., Lady Huggins, 853
Wiechmann, F. G., Sugar Analysis, C. S. Williamson, Jr., 465

son, Jr., 465

Wild Life Conservation, C. C. ADAMS, 790 WILLIAMS, S. R., Physical Research Laboratory, 725

WILLIAMSON, C. S., JR., Sugar Analysis, F. G.

Wiechmann, 465
Williston, S. W., Water Reptiles, R. S. Lull, 391
Wilson, E. B., Modern Zoology, 1

WILSON, E. B., National Academy, 868, 945
WILSON, O. T., Crown-gall of Alfalfa, 797
WINSLOW, C.-E. A., Ventilation, 625
WINTON, W. M., Texas Horned Lizards, 797
Wisdom in State and Education, H. E. Arm-STRONG, 923

WITHERS, W. A., and F. E. CARRUTH, Gossypol, 324

Woods Hole Laboratory, E. LINTON, 737 WOODWARD, R. S., Freely Falling Bodies, 492 WOODWORTH, C. W., Toxicity of Insecticides, 367 Worsham, W. A., Amer. Assoc. for Adv. of Sci., Philadelphia Meeting, 70 Wright, J. D., The Deaf, H. Best, 650

X, The Typical Case Exemplified, 758 X, Eye Shades for Microscopical Work, 864

Yellow Pigment and Egg-laying Activity, A. F. BLAKESLEE and D. E. WARNER, 432
YOUNG, S. W., Photochemistry, S. E. Sheppard, 166

Zinsser, H., Infection and Resistance, L. HEKTOEN,

Zoologists, Amer. Soc. of, C. Grave, 434, 469 Zoology, Modern, E. B. Wilson, 1; and Human-ity, E. G. Conklin, 333